

Costs of Substance Abuse in Sacramento County in 2010

Substance misuse and abuse costs in Sacramento County are conservatively estimated at \$2,277,743,400 in 2010 (counting tangible costs only), but increase to \$7,778,556,100 when quality of life losses are added. Based on the full lifetime costs, alcohol misuse and abuse accounted for \$5,696,170,800 and illicit drug abuse for \$2,082,385,300 (Table 1). Sacramento County's substance misuse and abuse costs per capita totaled \$5,476. It ranked number 27 among 56 California county groups in per capita cost (with #1 the lowest cost per capita). Figure 1 shows the statewide pattern of substance abuse costs per capita.

Figure 2 shows the statewide pattern of alcohol misuse and abuse costs. Sacramento County's alcohol misuse and abuse costs were \$4,010 per capita. It ranked number 28 of 56 California county groups on this measure (with #1 the lowest cost per capita).

Figure 3 shows the statewide pattern of illicit drug abuse costs. Sacramento County's illicit drug abuse costs were \$1,466 per capita. It ranked number 34 among 56 California county groups on this measure (with #1 the lowest cost per capita).

Alcohol misuse and abuse cost 2.7 times as much as drug abuse in Sacramento County in 2010.

Figure 1: Substance Abuse Cost per Capita by California County and Quintile, 2010

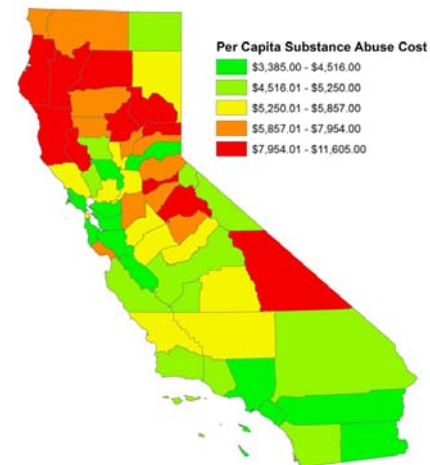


Figure 2: Alcohol Abuse Cost per Capita by California County and Quintile, 2010



Figure 3: Illicit Drug Abuse Cost per Capita by California County and Quintile, 2010



Costs by Cost Category

Table 1 summarizes the costs by cost category and substance. It includes seven categories of costs:

- Medical costs, including lifetime medical costs due to injury and acute inpatient care costs for alcohol-related illness
- Wage work loss, including loss of wages and fringe benefits due to injury, death, and perpetrator incarceration
- Household work losses due to injury and death
- Property damage and loss due to impaired driving crashes and crime
- Public services, including police, fire department, victim, and child protective services, as well as adjudication and sanctioning costs
- Miscellaneous impaired driving crash costs including insurance claims processing, travel delay, and employer costs of workplace disruption and rehiring
- Quality of life losses to death and nonfatal injury. These losses are valued based on the monetized quality-adjusted life year (QALY) approach. (See the Methods Appendix for details.)

As Table 1 shows, quality of life losses dominated total estimated costs (70.7%). Medical costs (6.8%) and lost wage work (12.9%) also were large cost categories.

Table 1. Costs of Substance Abuse by Class of Substance and Cost Category, Sacramento County, 2010

Cost Category	Alcohol	Illicit Drugs	Total	% of Total	% of Total State
Medical	\$342,310,600	\$188,154,500	\$530,465,100	6.8%	7.1%
Wage Work	\$754,607,900	\$247,488,800	\$1,002,096,700	12.9%	13.1%
Household Work	\$305,766,700	\$92,758,500	\$398,525,200	5.1%	5.0%
Public Services	\$59,808,400	\$116,167,300	\$175,975,700	2.3%	2.7%
Property Damage	\$71,621,600	\$16,788,100	\$88,409,700	1.1%	1.3%
Miscellaneous Motor Vehicle	\$77,733,700	\$4,537,300	\$82,271,000	1.1%	1.2%
Subtotal: Tangible Costs	\$1,611,848,900	\$665,894,500	\$2,277,743,400	29.3%	30.5%
Quality of Life*	\$4,084,321,900	\$1,416,490,800	\$5,500,812,700	70.7%	69.6%
Total	\$5,696,170,800	\$2,082,385,300	\$7,778,556,100	100.0%	100.0%

***Note:** The quality of life category captures pain, suffering and quality of life that a family loses when one of its members is killed, injured, ill, or otherwise loses functional capacity. The loss could be in physical or social functioning (e.g., losing mobility or having few friends and feeling isolated). The quality of life losses to impaired driving crashes and crime are the values the US Departments of Transportation and Justice use in their regulatory impact analyses. The cost of each harm (Table 2) incorporates all cost categories listed in the table of costs by cost category.

Cost to Government

Exclusive of quality of life, government sources bore an estimated 23% of the costs of substance abuse in Sacramento County in 2010. The government bill totaled \$514,392,500.

California state and local government shouldered a large share of the substance abuse bill. Their costs in Sacramento County totaled \$276,822,900 or \$195 per resident. California state government paid \$58,351,200 in MediCal costs and absorbed \$42,496,000 in tax losses. State and local government shared the \$175,975,700 in police, fire department, adjudication, sanctioning, and child protective services costs.

Federal health care costs of substance abuse in Sacramento County also were large, \$237,569,600.

Costs by Type of Harm

Table 2 summarizes costs by type of harm. In this table, Impaired Driving includes fatal, nonfatal, and property-damage-only crashes. Violence includes homicide, assault, rape and other sexual assault, and robbery. Non-violent Crime includes property crimes like burglary and vandalism and public disorder crimes like loitering, prostitution, gambling, driving under the influence (non-crash), and public drunkenness. We excluded other traffic violations. Other Mortality includes substance abuse deaths from suicide, drug overdoses, unintentional non-crash injury, and acute and chronic illness. The fatality estimate for alcohol-linked illnesses takes into account the potential health benefits of moderate drinking. Other Nonfatal Injury captures all injury except in assaults and road crashes that is attributable to substance abuse and where survivors are treated in hospital inpatient or emergency departments. It includes falls, poisonings, burns, near-drownings, etc. Medical Cost of Illness includes discharges from hospital inpatient or emergency departments for illness attributable to substance abuse.

Impaired driving in Sacramento County cost \$1,041,483,900 in 2010, with crashes attributable to alcohol dominating these costs. Of the \$434,301,900 in violence costs linked to substance abuse, 74% were attributed to alcohol and 26% to illicit drugs. Conversely, 80% of the \$137,090,500 in non-violent crime costs were attributable to drugs as were 76% of the \$78,360,500 in treatment costs.

Table 2. Costs of Substance Abuse by Class of Substance and Type of Harm, Sacramento County, 2010

Harm	Alcohol	Illicit Drugs	Total	% Alcohol *	% Alcohol State
Impaired Driving	\$984,044,900	\$57,439,000	\$1,041,483,900	94%	94%
Violent Crime	\$319,325,000	\$114,976,900	\$434,301,900	74%	73%
Non-violent Crime	\$26,751,200	\$110,339,300	\$137,090,500	20%	18%
Child Maltreatment	\$65,666,300	\$45,423,700	\$111,090,000	59%	58%
Other Mortality	\$3,259,440,400	\$1,385,343,500	\$4,644,783,900	70%	71%
Other Nonfatal Injury	\$857,449,200	\$217,702,600	\$1,075,151,800	80%	82%
Medical Cost of Illness	\$138,521,200	\$91,950,800	\$230,472,000	60%	66%
Substance Abuse Treatment	\$19,151,100	\$59,209,400	\$78,360,500	24%	26%
Risky Youth Sex	\$25,821,700	Not Estimated	\$25,821,700	100%	100%
Total	\$5,696,171,000	\$2,082,385,200	\$7,778,556,200	73%	75%

* The percentage of costs attributable to drugs is 100% minus the percentage attributable to alcohol.

Incidence of Selected Harms

In 2010, alcohol caused or contributed to 1,022 deaths in Sacramento County. Drug abuse added 272 deaths. Although not shown in Table 2, deaths in the Impaired Driving, Violence, and Other Mortality categories accounted for 66% of the \$7,778,556,200 in substance abuse costs in Sacramento County. Injury deaths alone – including impaired driving crashes, homicides, suicides, and overdoses among others – accounted for 28%. Long-term illness deaths associated with substance abuse accounted for the remaining 38%.

In 2009, substance misuse and abuse in Sacramento County caused or contributed to an estimated 19,525 violent crimes – rapes, robberies and assaults – with alcohol responsible for 13,295 and illicit drugs for 6,230. Substance abuse caused an estimated 8,330 crashes in Sacramento County in 2010,

with 7,870 attributable to alcohol and 459 attributable to drugs. Police reported only a fraction of these crashes as impaired driving. Most nonfatal costs of substance abuse in Sacramento County resulted from violence, impaired driving crashes, and other injuries.

Methods

These estimates are based on jurisdiction-specific counts of deaths from 2010 Vital Statistics, impaired driving deaths from the 2010 Federal Fatality Analysis Reporting System, impaired driving crash and injury counts from 2010 California Highway Patrol Statewide Integrated Traffic Records System (SWITRS), arrest counts from 2009 California Monthly Arrest and Citation Register (MACR), police-reported crime counts from the FBI's uniform crime reports (for reporting jurisdictions and FBI index crimes, with additional crime counts computed from the arrest data and the percentage of crimes leading to arrest by type of crime), substance abuse treatment episodes from 2006-2011 California Outcomes Measurement System Treatment (CalOMS), and 2009 California hospital and emergency department discharge data.

Unit costs generally came from other studies and were adjusted to 2010 California prices. For example, we adjusted substance abuse treatment costs from French et al. to 2010 California prices, multiplied them times the ratio of treatment and follow-up costs to treatment costs from Barnett et al., then applied the CalOMS mix of inpatient versus outpatient treatment to arrive at an overall average unit cost per person treated.¹ To increase estimate comparability between counties, we used the same price for comparable incidents (e.g., an Emergency Department visit or a vandalism incident) in all jurisdictions. Fatality costs, however, were age and gender-specific. We applied published attributable fractions, primarily ones recently updated by Rehm et al. (2009) for the World Health Organization, to estimate the portion of harm attributable to substance abuse.²

The death and injury costs in these estimates are incidence-based. That means that if a permanently disabling injury in an impaired driving crash or assault occurs in 2010, we count the lifetime of medical costs and work losses that result. We exclude costs of treating impaired people injured before 2010 even if they had medical expenses in 2010. For chronic illnesses like cancer, cirrhosis, and heart disease, data limitations forced us instead to count all medical care costs in 2010 for illnesses linked to drug and alcohol abuse, regardless of when the illness occurred. We also were unable to estimate wage, household work, and quality of life losses for those illnesses, so the estimates omit the associated costs.

To compute government costs, we assumed the payer distribution for medical costs of substance abuse would mirror the distribution for all medical care in California and that taxes on lost sales and income taxes on lost wages would be at state average percentages of per capita income. The full methods report provides further details.

Source and Funding

¹ French MT, Popovici I, Tapsell L. The economic costs of substance abuse treatment: Updated estimates and cost bands for program assessment and reimbursement. *Journal of Substance Abuse Treatment*, 35:4, 462–469, 2008. Barnett P, Mistry G, Finney J. (2007). Comparison of cost and outcomes of inpatient and outpatient treatment for substance use disorders. HERC Health Economics Seminar, June 18, 2008, www.hsrdr.research.va.gov/for_researchers/cyber_seminars/archives/HECSpr2008-061808.ppt

² Rehm J, Mathers C, Popova S, Thavorncharoensap M, Teerawattananon Y, Patra J. Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. *The Lancet*, 373: 9682, 2223 - 2233, 2009.

This fact sheet was prepared in 2012 by Ted R Miller, PhD of the Pacific Institute for Research and Evaluation, miller@pire.org with assistance from Lillian Remer, Paul Gruenewald, Bridget Freisthler, and Bruce Lawrence at PIRE and staff of Office of Applied Research and Analysis, California Department of Alcohol and Drug Programs (ADP) and of Safe and Active Communities Branch, California Department of Public Health. It was funded by ADP through their Strategic Prevention Framework State Incentive Grant from the US Substance Abuse and Mental Health Services Administration. All estimates and opinions are the author's and may not represent the official views of the funders.